Safety Checklist for Crane and Hoist Operation

A licensed operator who is certified to operate the type of equipment for which the new operator is being evaluated shall complete this checklist by initialing each item in the space provided to indicate that the new operator has demonstrated knowledge in the particular area or by marking "NA" for items that do not apply. Both the licensed operator and new operator's supervisor shall sign the completed checklist.

Operator's Name: _____

(Please print)

_____1. Describe the difference between a bridge crane and a hoist. (A bridge crane operates on two tracks; a hoist operates on a single monorail track.)

_____2. Why is a bridge crane more versatile than a hoist? (The bridge crane has 4-way horizontal movement, while a hoist has only 2-way horizontal movement.)

_____3. What are the components of a bridge crane? (Bridge, trolley, hoist drum, hoist cables, hoist block and hook, pendant, stops, bumpers, and limit switches.)

_____4. What are the standard markings used on a bridge crane control pendant? (Raise, lower, trolley east, trolley west, bridge north, bridge south, on/off switch.)

_____5. Why are on/off switches required on control pendants? (For emergency stops in the event that any of the pendant controls fails.)

_____6. If a crane's bridge, trolley, and hoist have more than one speed, describe the proper lifting procedures. (Start with the slowest speed and progressively increase to the highest.)

_____7. Explain the term "drum overlapping," as it pertains to a bridge crane, and the primary cause of overlapping. (The hoist cables will not lie properly in the grooves on the hoist drum if the operator does not center the hook over the load and start lifting the load from an angle.)

_____8. When should a bridge crane be checked for drum overlapping? (Prior to each use.)

_____9. How many wraps of wire must still be on the hoist drum when the hoist hook reaches the lowest working level in the work area? (No less than two full wraps of wire must be left on the hoist drum.)

_____10. Which hoists are required to have upper-limit switches, and how often should these switches be tested? (All motor-driven bridge cranes and hoists are required to have upper-limit switches, and they must be tested each day the crane is used.)

_____11. When are lower-limit switches required? (In any area that has lower working levels [e.g., pits]. Hoists that do not have enough wire on the drum to lower the hook to the lowest level and maintain at least two full wraps of wire on the drum must be fitted with lower-limit switches.)

_____12. Should limit switches be depended upon to stop the hoist movement? (Never. Limit switches are installed for safety only, and no operator should depend upon them for normal stopping.)

_____13. Where is the main electric disconnect for the bridge crane or hoist located? (Normally, a separate disconnect switch is located in a wall-mounted box with lockout capability.)

_____14. What are the proper procedures for cranes found to be defective (e.g., the upper-limit switch does not operate, a pendant control fails, the hoist does not hold the load)? (Report the defect to the supervisor immediately, lock out and tag the crane's main electrical disconnect switch, report the defect to Plant Engineering Maintenance and Operations Division [PEM/OD].)

_____15. Are movement alarms required on pendant-operated bridge cranes? (Alarms are not required; however, if a crane is fitted with a movement alarm, it must be maintained in working condition.)

_____16. Is a written, signed inspection report required for all bridge cranes and hoists, and who should complete that report? (The inspection is completed monthly by a responsible individual assigned by the supervisor and documented on the Monthly Inspection Report Form [LL-5204].)

_____17. Explain the action required if there is a hoist brake drift when the hoist stops with a load suspended. (There should be no hoist drift; if there is, the brake is not holding and should be reported to PEM/OD.)

_____18. Why is the hook always centered over the load? (To prevent drum overlapping and stress on the hoist and lifting fixtures.)

_____19. At what height should a load be lifted when it is being moved. (Only lift a load high enough to clear all obstructions in its path. Never move a load over personnel or costly equipment.)

_____20. When it is permissible to leave a load suspended on a crane hook, and who should be notified if mechanical problems prevent landing the load? (It is never permissible to leave a load suspended. The load must be landed and the slings removed from the hook. If there are mechanical problems, the PEM/OD shall be notified.)

_____21. Describe the procedures for parking a crane. (Remove all accessories from the hook, raise the hook 2.1 m (7 ft) above the floor level, store the pendant clear off work areas or aisles or 2.1 m above the floor level if the crane is fitted with a pendant-retracting reel, and place the stop switch in the OFF position.)

_____22. Can a person work under a suspended load? (Never, unless the load is supported by blocks or jacks.)

_____23. Can operators exceed the maximum capacity of a crane or hoist? (An operator shall never exceed the maximum capacity marked on both sides of the bridge or monorail for a hoist.)

_____24. What is the minimum safety factor for slings? (The safety factor for slings is 5 to 1.)

_____25. What precautions should be taken when using wire-rope slings or synthetic-webbing slings? (Protect the slings from sharp edges by using padding. This is especially important when using synthetic-webbing slings.)

_____26. Explain the proper procedure to follow if a synthetic sling is too short. (Use a shackle to join the two slings together. Never tie a knot in a sling, as this will weaken it considerably.)

_____27. What precautions should be taken when using eye bolts as lifting fixtures? (Ordinary eye bolts should only be used for straight pulls and must have a minimum of 1-1/2 times the bolt diameter threaded into the load. Shoulder-type eye bolts must have the shoulder tightly secured against a flat surface. The safe working load of an eye bolt decreases rapidly as the angle of the pull increases. Safety hoist or swivel rings are preferred and recommended.)

_____28. Describe the proper installation procedures for wire-rope clips. (The saddle of the clip must always rest on the part of the wire that will hold the load and take the stress. The U-bolt part of the clip must rest against the dead-end of the rope. The nuts must be tightened with a torque wrench to the clip manufacturer's settings.)

_____29. What effect will a kink in a wire rope cause? (A kink weakens the wire considerably. Any wire rope with a kink must be cut up and discarded to prevent reuse.)

_____30. What must an incidental crane and hoist operator do if a load weighs more than 225 kg (500 lb)? (Get his/her supervisor's approval prior to making the lift.)

Licensed Crane and Hoist Operator: _____

(Signature)

Supervisor: _____

(Signature)

Submit this checklist and the Qualification Request Form for an Incident Crane and Hoist Operator license to the Hazards Control Department (L-386) for approval.